



PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number

10/551,735

Filing Date

September 29, 2005

First Named Inventor

Guillermo J. Tearney

Art Unit

To be assigned

Examiner Name

To be assigned

Attorney Docket Number

036217/US/2 - 475387-00191

**ENCLOSURES (Check all that apply)**

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	PTO-1449 form with 31 references and Return Receipt Postcard
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53		
<b>Remarks</b>		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	Dorsey & Whitney, L.L.P.		
Signature			
Printed name	Gary Abelev, Esq.		
Date	February 17, 2006	Reg. No.	Reg. No. 40,479

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Gary Abelev, Esq.	Date	February 17, 2006

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



036217/US/2 - 475387-00191 PATENT


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s) : Guillermo J. Tearney et al.  
Serial No. : 10/551,735  
Filed : September 29, 2005  
Entitled : SPECKLE REDUCTION IN OPTICAL COHERENCE  
TOMOGRAPHY BY PATH LENGTH ENCODED ANGULAR  
COMPOUNDING  
Group Art Unit : To be determined  
Examiner : To be determined

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

I hereby certify that this document is being sent via First Class U. S.  
mail addressed to: Commissioner for Patents, P.O. Box 1450,  
Alexandria, Virginia 22313-1450 on this day of February 17, 2006.

  
(Signature)

Dear Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97(b), applicants bring to the attention of the Examiner the documents listed on the attached Form PTO 1449, and respectfully request that the listed documents be considered by the Examiner and made of record in the above-captioned application. Copies of the United States patent references listed on the Form PTO-1449 are not enclosed, but the PCT/foreign/non-patent references are enclosed.

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that the listed documents are material or constitute "prior art." If the Examiner applies the documents as prior art against any claim in the application and applicants determine that the cited documents do not constitute "prior art" under

United States law, applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of the documents.

Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should the documents be applied against the claims of the present application.

This submission is being filed before any action by the U.S. Patent and Trademark Office on the merits. Therefore, applicants do not believe that any fee is due in connection with the submission of this paper. However, if any fee is due, or if any overpayment has been made, the Commissioner is authorized to charge any such fee or credit any overpayment, to our Deposit Account No. 50-2054.

Respectfully submitted,

**DORSEY & WHITNEY, LLP**



---

Gary Abelev  
PTO Reg. No. 40,479  
Attorneys for Applicants  
(212) 415-9371

Form PTO-1449 U.S. Department of Commerce  
(REV. 2-82) Patent and Trademark Office

Atty. Docket No.  
036217/US/2 - 475387-  
00191

Serial No.  
10/551,735

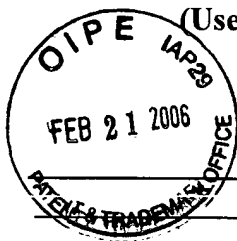
# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

Applicant(s)  
Milen Shishkov

Filing Date  
September 29, 2005

Group  
To be assigned



## U.S. PATENT DOCUMENTS

*Exam. Init.		Document No.							Date	Name	Class	Subclass	Filing Date if Appropriate
		5	4	9	1	5	2	4	February 13, 1996	Hellmuth et al.			
		6	6	8	0	7	8	0	January 20, 2004	Fee			
	2003	0	1	3	5	1	0	1	July 17, 2003	Webler			
		6	9	8	0	2	9	9	December 27, 2005	de Boer			
		6	1	6	6	3	7	3	December 26, 2000	Mao			
		6	4	6	9	8	4	6	October 22, 2002	Ebizuka et al.			
		5	6	2	3	3	3	6	April 22, 1997	Raab et al.			
		5	2	6	2	6	4	4	November 16, 1993	Maguire			
		5	1	2	7	7	3	0	July 7, 1992	Brelje et al.			
		5	2	4	8	8	7	6	September 28, 1993	Kerstens et al.			
		5	3	0	4	8	1	0	April 19, 1994	Amos			
		5	4	5	0	2	0	3	September 12, 1995	Penkethman			
		5	4	5	9	3	2	5	October 17, 1995	Hueton et al.			
		5	5	2	6	3	3	8	June 11, 1996	Hasman et al.			
		5	6	0	0	4	8	6	February 4, 1997	Gal et al.			
		5	6	9	8	3	9	7	December 16, 1997	Zarling et al.			
		5	7	8	5	6	5	1	July 28, 1998	Kuhn et al.			
		5	8	8	7	0	0	9	March 23, 1999	Mandella et al.			
		5	0	4	5	9	3	6	September 3, 1991	Lobb et al.			
		5	2	9	1	8	8	5	March 8, 1994	Taniji et al.			
		5	2	9	3	8	7	3	March 15, 1994	Fang			
		5	0	6	5	3	3	1	November 1991	Vachon et al.			
	2001	0	0	4	7	1	3	7	November 2001	Moreno et al.			
	2002	0	0	1	6	5	3	3	February 7, 2002	Marchitto et al.			
		6	8	1	6	7	4	3	November 9, 2004	Moreno et al.			

Examiner

Date Considered

\* Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 U.S. Department of Commerce  
(REV. 2-82) Patent and Trademark Office

Atty. Docket No.  
036217/US/2 – 475387-  
00191

Serial No.  
10/551,735

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**

(Use several sheets if necessary)

Applicant(s)  
Milen Shishkov

Filing Date  
September 29, 2005

Group  
To be assigned

		6	3	2	4	4	1	9	November 27, 2001	Guzelsu et al.			
		6	5	6	4	0	8	9	May 13, 2003	Izatt et al.			
		6	1	9	8	9	5	6	March 6, 2001	Dunne, Shane			
		5	7	3	5	2	7	6	April 7, 1998	Lemelson, Jerome			

**FOREIGN PATENT DOCUMENT**

		Document No.							Date	Country	Class	SubClass	Translator	
													Yes	No
	0	4	1	0	5	5	9	8	December 9, 2004	WIPO				

**OTHER DOCUMENTS (including Author, Title Date, Pertinent Pages, Etc.)**

		Marc Nikles et al., "Brillouin gain spectrum characterization in single-mode optical fibers", <u>Journal of Lightwave Technology</u> 1997, 15 (10): 1842-1851.
		Tsuyoshi Sonehara et al., "Forced Brillouin Spectroscopy Using Frequency-Tunable Continuous-Wave Lasers", <u>Physical Review Letters</u> 1995, 75 (23): 4234-4237.
		Hajime Tanaka et al., "New Method of Superheterodyne Light Beating Spectroscopy for Brillouin-Scattering Using Frequency-Tunable Lasers", <u>Physical Review Letters</u> 1995, 74 (9): 1609-1612.
		Webb RH et al. "Confocal Scanning Laser Ophthalmoscope", <u>Applied Optics</u> 1987, 26 (8): 1492-1499.
		Andreas Zumbusch et al. "Three-dimensional vibrational imaging by coherent anti-Stokes Raman scattering", <u>Physical Review Letters</u> 1999, 82 (20): 4142-4145.
		Katrin Kneipp et al., "Single molecule detection using surface-enhanced Raman scattering (SERS)", <u>Physical Review Letters</u> 1997, 78 (9): 1667-1670.
		K.J. Koski et al., "Brillouin imaging" <u>Applied Physics Letters</u> 87, 2005.

Examiner

Date Considered

\* Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 U.S. Department of Commerce  
(REV. 2-82) Patent and Trademark Office

Atty. Docket No.  
036217/US/2 – 475387-  
00191

Serial No.  
10/551,735

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**  
(Use several sheets if necessary)

Applicant(s)  
Milen Shishkov

Filing Date  
September 29, 2005

Group  
To be assigned

		Boas et al., "Diffusing temporal light correlation for burn diagnosis", <u>SPIE</u> , 1999, 2979:468-477.
		David J. Briers, "Speckle fluctuations and biomedical optics: implications and applications", <u>Optical Engineering</u> , 1993, 32(2):277-283.
		Clark et al., "Tracking Speckle Patterns with Optical Correlation", <u>SPIE</u> , 1992, 1772:77-87.
		Facchini et al., "An endoscopic system for DSPI", <u>Optik</u> , 1993, 95(1):27-30.
		Hrabovsky, M., "Theory of speckle displacement and decorrelation: application in mechanics", <u>SPIE</u> , 1998, 3479:345-354.
		Sean J. Kirkpatrick et al., "Micromechanical behavior of cortical bone as inferred from laser speckle data", <u>Journal of Biomedical Materials Research</u> , 1998, 39(3):373-379.
		Sean J. Kirkpatrick et al., "Laser speckle microstrain measurements in vascular tissue", <u>SPIE</u> , 1999, 3598:121-129.
		Loree et al., "Mechanical Properties of Model Atherosclerotic Lesion Lipid Pools", <u>Arteriosclerosis and Thrombosis</u> , 1994, 14(2):230-234.
		Podbielska, H. "Interferometric Methods and Biomedical Research", <u>SPIE</u> , 1999, 2732:134-141.
		Richards-Kortum et al., "Spectral diagnosis of atherosclerosis using an optical fiber laser catheter", <u>American Heart Journal</u> , 1989, 118(2):381-391.
		Ruth, B. "blood flow determination by the laser speckle method", <u>Int J Microcirc: Clin Exp</u> , 1990, 9:21-45.
		Shapo et al., "Intravascular strain imaging: Experiments on an Inhomogeneous Phantom", <u>IEEE Ultrasonics Symposium</u> 1996, 2:1177-1180.
		Shapo et al., "Ultrasonic displacement and strain imaging of coronary arteries with a catheter array", <u>IEEE Ultrasonics Symposium</u> 1995, 2:1511-1514.

Examiner

Date Considered

\* Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 U.S. Department of Commerce  
(REV. 2-82) Patent and Trademark Office

Atty. Docket No.  
036217/US/2 – 475387-  
00191

Serial No.  
10/551,735

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**

(Use several sheets if necessary)

Applicant(s)  
Milen Shishkov

Filing Date  
September 29, 2005

Group  
To be assigned

		Thompson et al., "Imaging in scattering media by use of laser speckle", <u>Opt. Soc. Am. A.</u> , 1997, 14(9):2269-2277.
		Thompson et al., "Diffusive media characterization with laser speckle", <u>Applied Optics</u> , 1997, 36(16):3726-3734.
		Tuchin, Valery V., "Coherent Optical Techniques for the Analysis of Tissue Structure and Dynamics," <u>Journal of Biomedical Optics</u> , 1999, 4(1):106-124.
		M. Wussling et al., "Laser diffraction and speckling studies in skeletal and heart muscle", <u>Biomed. Biochim. Acta</u> , 1986, 45(1/2):S 23- S 27.
		T. Yoshimura et al., "Statistical properties of dynamic speckles", <u>J. Opt. Soc. Am A</u> , 1986, 3(7):1032-1054
		Zimnyakov et al., "Spatial speckle correlometry in applications to tissue structure monitoring", <u>Applied Optics</u> 1997, 36(22): 5594-5607.
		Zimnyakov et al., "A study of statistical properties of partially developed speckle fields as applied to the diagnosis of structural changes in human skin", <u>Optics and Spectroscopy</u> , 1994, 76(5): 747-753.
		Zimnyakov et al., "Speckle patterns polarization analysis as an approach to turbid tissue structure monitoring", <u>SPIE</u> 1999, 2981:172-180.
		Ramasamy Manoharan et al., "Biochemical analysis and mapping of atherosclerotic human artery using FT-IR microspectroscopy", <u>Atherosclerosis</u> , May 1993, 181-1930.
		N.V. Salunke et al., "Biomechanics of Atherosclerotic Plaque" <u>Critical Reviews™ in Biomedical Engineering</u> 1997, 25(3):243-285.

4824-6560-1280\1

Examiner

Date Considered

\* Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.